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CRYOVAC, INC.  
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EXAMINER

HAWKINS, CHERYL N

ART UNIT	PAPER NUMBER
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1734

10

DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/483,117

Applicant(s)

GEORGE ET AL.

Examiner

Cheryl N Hawkins

Art Unit

1734

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21, 27-29 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 22-26, 30-34 and 38-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 48 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing 48 is to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 48 recites the limitation "the front jaw release sheet" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kochmer et al. (US 3,253,122). Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films (column 1, lines 9-12), the device includes front and rear opposing jaws (Figure 3) moveable between an open position defining a zone for inserting at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other (column 1, lines 17-19), the rear jaw including a resilient portion (silicone rubber pad 30) facing the front jaw, the resilient portion having a given cross-sectional

Art Unit: 1734

thickness; and a heating element (heating element 16) positioned between the insertion zone and the front jaw, the heating element having a cross-sectional thickness no less than about 0.55 times the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 43, Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films in which the cross-sectional thickness of the heating element is no less than the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 44, Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films in which the cross-sectional thickness of the heating element is no less than about twice the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 45, Kochmer et al. discloses a heating element (Figure 3, heating element 16), which is at least partially embedded in the front jaw when the front and rear jaws are in the open position.

As to Claim 46, Kochmer et al. discloses a device in which the surface of the resilient portion (silicone rubber pad 30) of the rear jaw facing the front jaw includes a release characteristic (Teflon-fiberglass tape 32).

As to Claim 47, Kochmer et al. discloses a device in which a rear jaw release sheet (Teflon-fiberglass tape 32) is positioned adjacent to the resilient portion (silicone rubber pad 30) of the rear jaw (Figure 3).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 22-26 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kochmer et al. (US 3,235,122) in view of "The Wiley Encyclopedia of Packaging Technology". Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films (column 1, lines 9-12), the device includes front and rear opposing jaws (Figure 3) moveable between an open position defining a zone for inserting at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other (column 1, lines 17-19), the rear jaw including a resilient portion (silicone rubber pad 30) facing the front jaw, the resilient portion having a given cross-sectional thickness and a heating element (heating element 16) positioned in the top portion of the front jaw, the heating element having a cross-sectional thickness no less than about 0.55 times the cross-sectional thickness of the resilient portion (Figure 3).

As to Claims 22 and 26, Kochmer et al. is silent as to a front jaw release sheet, which includes an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed by "The Wiley Encyclopedia of Packaging Technology" (page 575, column 2, lines 5-9; Figure 4), for heat sealing machines to have release coverings composed of reinforced materials, i.e. silicone-rubber-coated fiberglass, or unreinforced materials such as polyimide film to prevent the plastic films being sealed and/or severed from sticking to elements

Art Unit: 1734

of the apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat sealing and severing apparatus of Kochmer et al. to include a unreinforced release covering on the heating element to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus.

As to Claim 23, Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films in which the cross-sectional thickness of the heating element is no less than the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 24, Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films in which the cross-sectional thickness of the heating element is no less than about 1.5 times the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 25, Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films in which the cross-sectional thickness of the heating element is no less than about twice the cross-sectional thickness of the resilient portion (Figure 3).

As to Claim 30, Kochmer et al. discloses a device in which the surface of the resilient portion (silicone rubber pad 30) of the rear jaw facing the front jaw includes a release characteristic (Teflon-fiberglass tape 32).

As to Claim 31, Kochmer et al. discloses a device in which a rear jaw release sheet (Teflon-fiberglass tape 32) is positioned adjacent to the resilient portion (silicone rubber pad 30) of the rear jaw (Figure 3).

Art Unit: 1734

As to Claim 32, Kochmer et al. is silent as to a device in which the rear jaw release sheet includes an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed by "The Wiley Encyclopedia of Packaging Technology" (page 575, column 2, lines 5-9; Figure 4), for heat sealing machines to have release coverings composed of reinforced materials, i.e. silicone-rubber-coated fiberglass, or unreinforced materials such as polyimide film to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus. It would have been readily apparent to one of ordinary skill in the art at the time of the invention that the heat sealing and severing apparatus of Kochmer et al. could be modified to include a unreinforced release covering on the heating element to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus and yet retain its capability of effectively sealing and severing thermoplastic films.

7. Claims 33-34 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergevin (US 4,981,546) in view of "The Wiley Encyclopedia of Packaging Technology". As to Claims 33 and 39, Bergevin discloses a device for heat sealing thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining a zone for inserting two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate to each other to compress the thermoplastic films together, the rear jaw including a resilient portion facing the front jaw; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position, the front jaw release sheet including a release material; and a heating element positioned between the front jaw release sheet and the front jaw. Bergevin also discloses the

Art Unit: 1734

heat sealing apparatus as having a rear jaw release sheet adjacent to the resilient portion of the rear jaw and wherein the heating element is partially embedded in the resilient portion of the rear jaw during operation of the heat sealer (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

As to Claims 33, 34, 38, and 40, Bergevin is silent as to the front jaw or rear jaw release sheet including an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed in "The Wiley Encyclopedia of Packaging Technology", for impulse sealers to contain release coverings that can be composed of reinforced materials i.e. silicone-rubber-coated fiberglass or unreinforced materials such as Teflon-coated polyimide film (page 575, column 2, lines 5-9; Figure 4) to prevent plastic films being sealed and/or severed from sticking to elements of the apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well established in the heat sealing apparatus art.

8. Claims 33 and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Kochmer et al. (US 3,253,122) in view of "The Wiley Encyclopedia of Packaging Technology". Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films (column 1, lines 9-12), the device includes front and rear opposing jaws (Figure 3) moveable between an open position defining a zone for inserting at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other (column 1, lines 17-19), the rear jaw including a resilient portion (silicone rubber pad 30)

Art Unit: 1734

facing the front jaw and a heating element (heating element 16) positioned in the top portion of the front jaw.

As to Claim 33, Kochmer et al. is silent as to a front jaw release sheet, which includes an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed by "The Wiley Encyclopedia of Packaging Technology" (page 575, column 2, lines 5-9; Figure 4), for heat sealing machines to have release coverings composed of reinforced materials, i.e. silicone-rubber-coated fiberglass, or unreinforced materials such as polyimide film to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat sealing and severing apparatus of Kochmer et al. to include a unreinforced release covering on the heating element to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus.

As to Claim 41, Kochmer et al. discloses a heating element (Figure 3, heating element 16), which is at least partially embedded in the front jaw when the front and rear jaws are in the open position.

9. Claims 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kochmer et al. (US 3,253,122) as applied to claim 42 above, and further in view of "The Wiley Encyclopedia of Packaging Technology". As to Claim 48, Kochmer et al. is silent as to a front jaw release sheet, which includes an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed by "The Wiley Encyclopedia of Packaging Technology" (page 575, column 2, lines 5-9; Figure 4), for heat sealing machines to have release coverings

Art Unit: 1734

composed of reinforced materials, i.e. silicone-rubber-coated fiberglass, or unreinforced materials such as polyimide film to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat sealing and severing apparatus of Kochmer et al. to include a unreinforced release covering on the heating element to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus. Kochmer et al. is also silent as to the percentage of the surface area of the heating element that the release sheet conforms to upon closure of the front and rear jaws. When modifying the heat sealer of Kochmer et al. to include the use of a release sheet covering the heating element, the front release sheet would conform to greater than 20% of the surface of the heating element that is within the transverse width of the thermoplastic films.

***Allowable Subject Matter***

10. Claims 1-6 are allowed.

11. The following is an examiner's statement of reasons for indicating allowable subject matter: As to Claim 1, the prior art of record to Bergevin discloses a device for heating sealing at least two thermoplastic films together, the device comprising front and rear opposing jaws movable between an open position defining a zone for inserting the two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness; a rear jaw release

Art Unit: 1734

sheet adjacent to the resilient portion of the rear jaw, the rear jaw release sheet including a reinforced release material; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position, the front jaw release sheet including a reinforced material; a heating element positioned between the front jaw release sheet and the front jaw, the heating element having a cross-sectional thickness less than 0.55 times the cross-sectional thickness of the resilient portion (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

The prior art of record to Bergevin does not teach including an unreinforced release material as the release material for the front and rear jaws. The conventional prior art disclosed in "The Wiley Encyclopedia of Packaging Technology" teaches that impulse sealers, such as the apparatus of Bergevin, contain release coverings that can be composed of reinforced material i.e. silicone-rubber-coated fiberglass or unreinforced material such as polyimide film (page 575, column 2, lines 5-9; Figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well known and conventional in the heat sealing apparatus art.

The prior art of record to Bergevin does not teach a heating element having a cross-sectional thickness no less than about 0.55 times the cross-sectional thickness of the resilient portion. The prior art of record to Kochmer et al. discloses a heat sealing and severing device in which the cross-sectional thickness of the heating element (Figure 3, heating element 16) is greater than 0.55 times the cross-sectional thickness of the resilient portion (silicone rubber pad 30). One of ordinary skill in the art at the time of the invention would readily recognize that a

Art Unit: 1734

heat sealing device having a heating element which is less than or greater than 0.55 times the cross-sectional thickness of the resilient portion would produce effective heat seals as suggested by Bergevin and Kochmer et al.

The prior art of record does not teach or provide any motivation for the heat sealing device having at least one recoiler having a first end attached to the front jaw release sheet and a second end attached to the front jaw, wherein the recoiler disengages the front jaw release sheet from the heating element when the front and rear jaw are in the open position.

12. Claims 7 and 8 are allowed.

13. The following is a statement of reasons for the indication of allowable subject matter: As to Claim 7, the prior art of record to Bergevin teaches a heat sealing device which is capable of performing a method of simultaneously sealing and severing two thermoplastic films, the method comprising: inserting the two thermoplastic films in the insertion zone of the device; moving the front and rear jaws to the closed position whereby the two thermoplastic films are pressed together between the front and rear jaws; applying an electrical impulse to the heating element to increase the temperature of the heating element to a point sufficient to simultaneously sever and heat seal the two thermoplastic films; and discontinuing the electrical impulse to the heating element while the front and rear jaws are in the closed position to set the heat seal (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

However, the prior art of record does not teach performing this heat sealing method with the heat sealing device as described in claim 1.

14. Claims 9-21 are allowed.

15. The following is a statement of reasons for the indication of allowable subject matter: As to Claim 9, the prior art of record to Bergevin teaches a device for heating sealing at least two thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining a zone for inserting the two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and a heating element positioned between the front release sheet and the front jaw, wherein the front jaw release sheet is attached to the heating element when the front and rear jaws are closed or open position (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

The prior art of record does not disclose or provide any motivation for having a heat sealing device in which the front jaw release sheet engages the heating element when the front and rear jaws are in the closed position and disengages from the heating element when the front and rear jaws are in the open position.

16. Claims 27-29 are allowed.

17. As to Claims 27, the prior art of record to Kochmer et al. discloses a device for simultaneously heat sealing and severing at least two thermoplastic films (column 1, lines 9-12), the device includes front and rear opposing jaws (Figure 3) moveable between an open position defining a zone for inserting at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other (column 1, lines 17-19), the rear jaw including a resilient portion (silicone rubber pad 30) facing the front jaw, the resilient portion having a given cross-sectional thickness and a heating element (heating element 16) positioned between the front jaw release sheet and the front jaw, the heating element having a cross-sectional thickness no less than about 0.55 times the cross-sectional thickness of the resilient portion (Figure 3). Kochmer et al. is silent as to a front jaw release sheet, but it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat sealing and severing apparatus of Kochmer et al. to include a release covering on the heating element to prevent the plastic films being sealed and/or severed from sticking to elements of the apparatus.

The prior art of record to Kochmer et al. does not teach or suggest any motivation for a heat sealer to have at least one spacer attached to the front jaw release sheet, wherein the front jaw release sheet is disengaged from the heating element when the front and rear jaws are in the open position.

18. Claims 35-37 are allowed.

Art Unit: 1734

19. As to Claim 35, the prior art of record to Bergevin discloses a device for heat sealing thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining a zone for inserting two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate to each other to compress the thermoplastic films together, the rear jaw including a resilient portion facing the front jaw; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position, the front jaw release sheet including a release material; and a heating element positioned between the front jaw release sheet and the front jaw. Bergevin does not disclose the front jaw or rear jaw release sheet including an unreinforced release material. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well established in the heat sealing apparatus art.

The prior art of record to Bergevin does not teach or suggest any motivation for a heat sealer to have at least one spacer attached to the front jaw release sheet, wherein the front jaw release sheet is disengaged from the heating element when the front and rear jaws are in the open position.

### ***Response to Arguments***

20. Applicant's arguments with respect to claims 22-26, 30-32, and 41-48 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1734

21. In response to the applicant's arguments that contrary to the Examiner's opinion the Teflon-coated polyimide film of the Wiley reference is a reinforced release material, the applicant is referred to the Dictionary of Scientific and Technical Terms which states that reinforced plastic is filled with whiskers of glass, metal, born, or other materials, therefore the Examiner asserts that the addition of a Teflon coating to a polyimide film does not provide reinforcement filling to the film and thereby the substrate cannot be categorized as a reinforced material.

***Conclusion***

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl N. Hawkins whose telephone number is (703) 306-0941. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

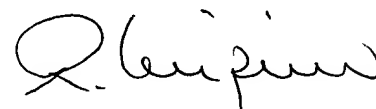
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where the application or proceeding is assigned is (703) 872-9310 for regular communications or (703) 872-9311 for After-Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone numbers is (703) 308-0661.

Cheryl N. Hawkins

*Cheryl N. Hawkins* 3/11/02

March 10, 2002



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700